Jones, Kevin (ASRC)

From: SOW FUN HON [Sow-Fun.Hon@uspto.gov]
Sent: Tuesday, July 03, 2007 3:19 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10/542065

229989

Requester:
SOW FUN HON (P/1772)
Art Unit:
GROUP ART UNIT 1772
Employee Number:
77463
Office Location:
REM 08A61
Phone Number:
(571)272-1492
Mailbox Number:

Case serial number:
10/542065
Class / Subclass(es):
428/1.1
Earliest Priority Filing Date:
01/10/03
Format preferred for results:
Paper
Search Topic Information:
Please search the structure in claim 4.
First, combine with the term "chiral" and
next, with terms such as "broadband", "broad band", "wideband", "wide band" to narrow down the search.
Special Instructions and Other Comments:

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STRUCTURE FILE UPDATES:    9 JUL 2007  HIGHEST RN 941818-42-4
DICTIONARY FILE UPDATES:   9 JUL 2007  HIGHEST RN 941818-42-4

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on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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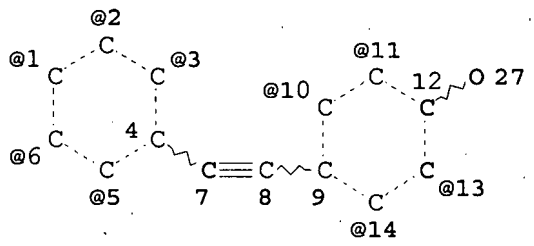


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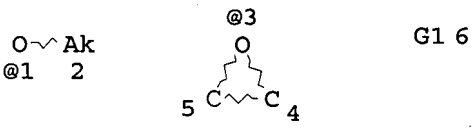


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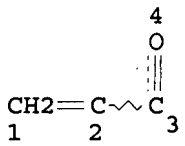

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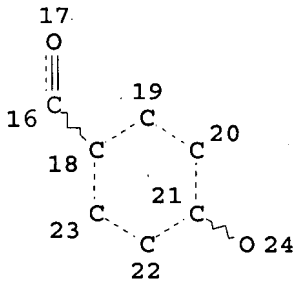

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FILE COVERS 1907 - 10 Jul 2007 VOL 147 ISS 3
FILE LAST UPDATED: 9 Jul 2007 (20070709/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L20 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:97104 HCAPLUS
DOCUMENT NUMBER: 144:180898
TITLE: Liquid crystal alignment film used in aligned liquid crystal film as optical films for optical imaging devices
INVENTOR(S): Inoue, Tetsuo; Kawaguchi, Yoshihide; Moroishi, Hiroshi
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006030555	A	20060202	JP 2004-208814	200407 15

PRIORITY APPLN. INFO.: JP 2004-208814 200407 15

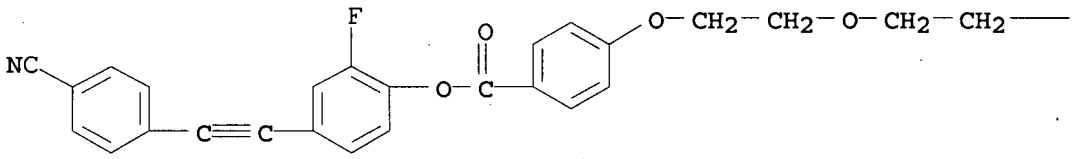
AB The title alignment film is made from a liquid crystal polymer and shows anisotropy. The aligned film provides excellent liquid crystal alignment.

IT **461055-21-0P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(liquid crystal alignment film)
RN 461055-21-0 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



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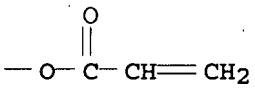

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
IT 279256-64-3P **461055-21-0P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(liquid crystal alignment film)

L20 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1175797 HCAPLUS
DOCUMENT NUMBER: 143:449486
TITLE: Circularly polarizing plates in optical device for optical condensing-type back light in liquid crystal displays
INVENTOR(S): Shiraogawa, Miki; Takeda, Kentaro; Takahashi, Naoki
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005308988	A	20051104	JP 2004-124358	20040420

PRIORITY APPLN. INFO.: JP 2004-124358 20040420

AB The title polarized plate has layered 2 reflective circular polarizer films and has ≤20 haze-value. The polarizing plate shows efficient light usage and provides liquid crystal display of bright images.

IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(circularly polarizing plates)

RN 727400-95-5 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

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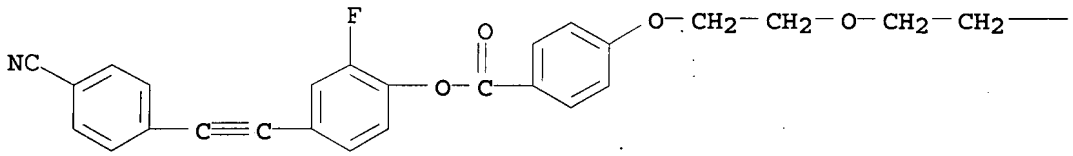
CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



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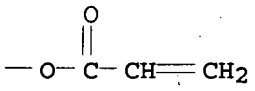

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CRN 457053-05-3
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IC ICM G02B005-30
ICS G02F001-1335; G02F001-1335; G02F001-1336

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35

IT 133945-18-3DP, polymer with acrylate liquid crystal
727400-95-5P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(circularly polarizing plates)

L20 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1025994 HCAPLUS
DOCUMENT NUMBER: 143:336423

TITLE: Manufacture of broadband cholesteric liquid crystal film
INVENTOR(S): Fukuoka, Takahiro; Shiraogawa, Miki; Hara, Kazutaka; Takahashi, Naoki
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005258192	A	20050922	JP 2004-71158	200403 12

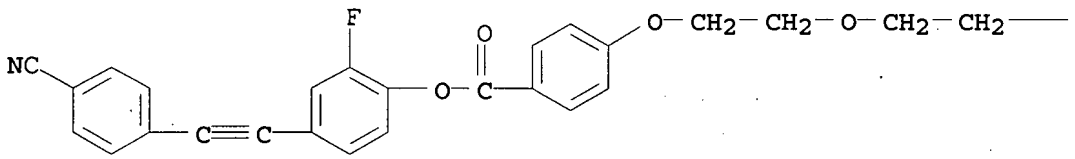
PRIORITY APPLN. INFO.: JP 2004-71158 200403 12

AB Disclosed is a process comprising the steps of (a) applying an alignment substrate with a liquid crystal mixture containing a polymerizable mesogen compound and a polymerizable chiral agent, irradiating with UV light to polymerize and harden the liquid crystal mixture, wherein the UV irradiation step is carried out with an intensity of 10-200 mW/cm2 for 0.1-5 s in conditions of an O2 atmospheric and a temperature ≥70°, heat-treated at≥70° for 0.1-5 s, and irradiated with UV light in the absence of O2.

IT **461055-10-7**
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(manufacture of broadband cholesteric liquid crystal film)

RN 461055-10-7 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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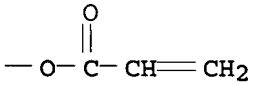

IC ICM G02B005-30
ICS G02F001-1335
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75
IT 457053-05-3, LC 756 **461055-10-7**
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(manufacture of broadband cholesteric liquid crystal film)

L20 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:963432 HCAPLUS
DOCUMENT NUMBER: 141:403639
TITLE: Liquid crystal films, their manufacture, optical films, illumination devices, and displays
INVENTOR(S): Hara, Kazutaka; Takahashi, Naoki; Fukuoka, Takahiro
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004317651	A	20041111	JP 2003-109086	200304 14

PRIORITY APPLN. INFO.: JP 2003-109086 200304 14

AB The method involves (1) applying liquid crystal compns. containing polymerizable liquid crystals on alignment substrates, (2) polymerizing the liquid crystals by light or heat while keeping alignment of the liquid crystals, (3) laminating retardation sheets on uncured films of the liquid crystal compns. in the polymerization, and (4) curing the uncured films after the lamination. The liquid crystal films may be manufactured by applying solns. of cholesteric liquid crystal polymers on alignment substrates, aligning cholesteric spiral axis of the polymers to direction perpendicular to the substrates, laminating retardation sheets on the polymer layers while hot drying the polymer layers, and fixing alignment of the layers to give alignment films. Liquid crystal thin films are easily obtained at a low cost.
IT **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polymer liquid crystal thin films for illumination devices of displays)
RN 727400-95-5 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

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CRN 461055-10-7
CMF C29 H22 F N O6

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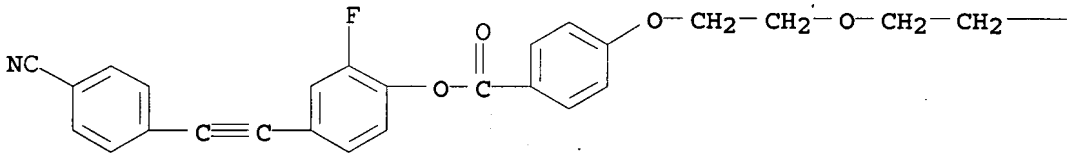

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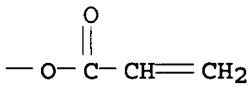

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CRN 457053-05-3
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ICS G02F001-1335; G02F001-1336
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73, 75
IT 457053-13-3P, LC 242-LC 756 copolymer **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polymer liquid crystal thin films for illumination devices of displays)

L20 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:904377 HCAPLUS
DOCUMENT NUMBER: 141:386488
TITLE: Method for manufacturing cholesteric liquid crystal film having wide reflective range for circular or linear polarizer for light source of liquid crystal displays
INVENTOR(S): Fukuoka, Takahiro; Hara, Kazutaka; Shiraogawa, Miki; Takahashi, Naoki; Takeda, Kentaro
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004302075	A	20041028	JP 2003-94307	200303 31

PRIORITY APPLN. INFO.: JP 2003-94307 200303 31

AB The title method includes the process of: coating a alignment film substrate with a solution containing a polymerizable mesogen compound and a polymerizable chiral agent; and UV-irradiating the coated layer to form a reflective film having ≥200 nm reflecting range, wherein the UV-irradiating process includes two steps of: irradiating the coated layer ≥3 times with 1-200 Weight average mW/cm2 UV for 0.2-30 s. at ≥20° C increasing the irradiation period and decreasing light power each time under O2; and irradiating the coated layer without O2 presence. The method provides the cholesteric liquid crystal film showing wide reflective range.

IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal film)

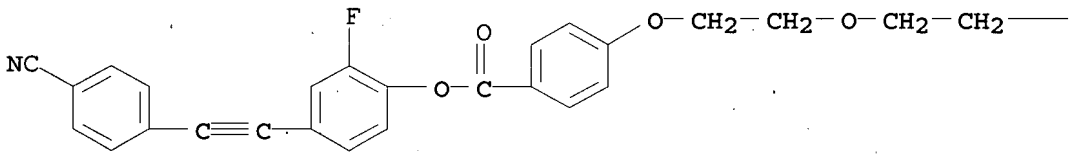
RN 727400-95-5 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



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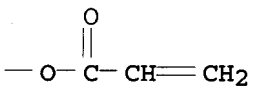

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CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35
IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal film)

L20 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:632357 HCAPLUS
DOCUMENT NUMBER: 141:164942
TITLE: Reflective polarizing film with cholesteric liquid crystal layer, its illumination device, and liquid crystal display
INVENTOR(S): Shiraogawa, Miki; Takahashi, Naoki; Hara, Kazutaka
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004219559	A	20040805	JP 2003-4539	200301 10
PRIORITY APPLN. INFO.:			JP 2003-4539	200301 10

AB The reflective polarizing film comprises ≥2 layers of reflective polarizers (a) whose wavelength bands of selective reflection of polarized lights overlap with each other, and in between, a retardation layer (b) whose front retardation (normal line direction) is substantially zero and which has retardation ≥λ/8 toward incident light which enters ≥30° inclined to the normal line, wherein the reflective polarizer (a) has a cholesteric liquid crystal layer prepared by applying a blend containing polymerizable liquid crystal compds. and polymerizable chiral agents on a substrate in a layer form, aligning in such a way that the cholesteric spiral axis becomes vertical to the substrate face, keeping the liquid crystalline state, polymerizing and curing the blend by radiation irradiation from the substrate side while the blend is in contact with a gas containing oxygen, and based on the difference in polymerization rate caused by polymerization retardation with oxygen, forming variation in cholesteric pitch lengths. Preferably, the substrate comprises a plastic film with transmittance of 365-nm UV ≥10%. Preferably, the retardation layer (b) is prepared by fixing of planar orientation of a cholesteric liquid crystalline phase having a wavelength band region of selective reflection other than

the visible light region. In another alternative, the retardation layer (b) is prepared by fixing of homeotropic orientation of rod-shaped liquid crystals. In another alternative, the retardation layer (b) is prepared by fixing of nematic phase or columnar phase orientation of discotic liquid crystals. Preferably, the retardation layer (b) comprises biaxially oriented plastic film which will show birefringence. In another alternative, the retardation layer (b) is prepared by orientation fixing of an inorg. laminar compound of a neg. uniaxial character in such a way that the optical axis is aligned in the normal line direction of the surface. The illumination device has the reflective polarizing film on the front side of a surface-emitting light source having a reflective layer on the rear side. The liquid crystal display has a liquid crystal cell on the light-emitting side of the illumination device.

IT **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reflective polarizing film with cholesteric liquid crystal layer, its illumination device, and LCD)

RN 727400-95-5 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

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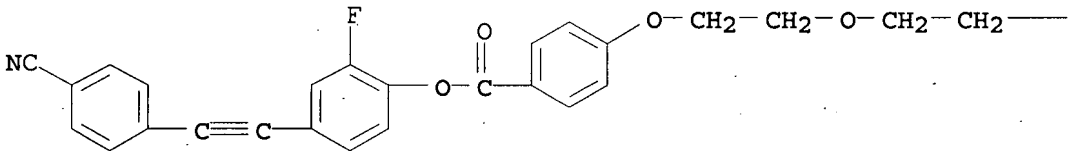
PAGE 1-A



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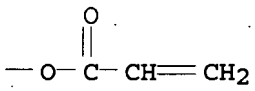

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CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM G02B005-30
ICS B32B007-02; C09J201-00; G02F001-1335; G02F001-1336

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(reflective polarizing film with cholesteric liquid crystal layer, its illumination device, and LCD)

L20 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:632353 HCAPLUS
DOCUMENT NUMBER: 141:182056
TITLE: Broadband cholesteric liquid-crystal films, their manufacture, circular polarizing sheets, linear polarizers, illumination apparatus, and display devices
INVENTOR(S): Fukuoka, Takahiro; Hara, Kazutaka; Takahashi, Naoki
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004219540	A	20040805	JP 2003-4298	200301 10

PRIORITY APPLN. INFO.: JP 2003-4298 200301 10

AB The films with reflection band width ≥200 nm are manufactured by polymerization of compns. comprising (A) polymerizable mesogens, (B) polymerizable chiral agents, (C) photopolymn. initiators, and (D) polymerizable UV absorbers between 2 substrates with UV light. The linear polarizers are obtained by laminating λ/4 plates on circular polarizing sheets using the films. The illumination apparatus has the polarizing sheets or the linear polarizers. Display devices using the illumination apparatus show high luminance, good viewing angle property, and high durability.

IT **732245-80-6P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of broadband cholesteric liquid-crystal films for polarizers of displays)

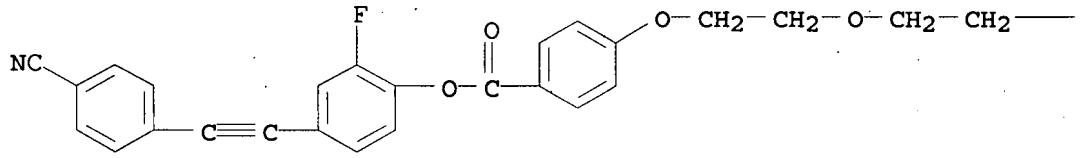
RN 732245-80-6 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl 2-methyl-2-propenoate and Paliocolor LC 756 (9CI) (CA INDEX NAME)

CM 1

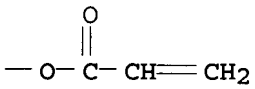
CRN 461055-10-7

CMF C29 H22 F N O6

PAGE 1-A



PAGE 1-B



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CRN 457053-05-3
CMF Unspecified
CCI MAN

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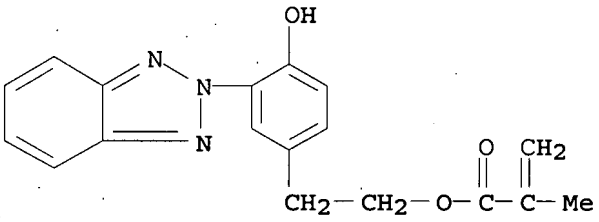

IC ICM G02B005-30
ICS C08F220-36; C08F290-06; G02F001-1335; G02F001-1336
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73
IT **732245-80-6P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of broadband cholesteric liquid-crystal films for polarizers of displays)

L20 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:632347 HCAPLUS
DOCUMENT NUMBER: 141:164940
TITLE: Wide wavelength band cholesteric liquid crystal film, linearly or circularly polarizing film, their manufacture, and their illumination and liquid crystal display
INVENTOR(S): Takahashi, Naoki; Fukuoka, Takahiro; Hara, Kazutaka
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004219522	A	20040805	JP 2003-4101	200301 10

PRIORITY APPLN. INFO.: JP 2003-4101 200301 10

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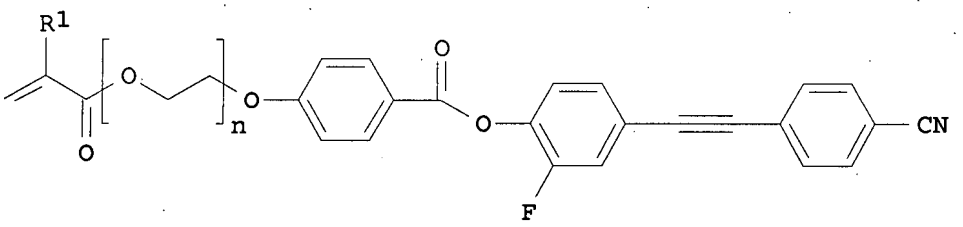


I

AB The cholesteric liquid crystal film has Grandjean structure where the pitch length becomes narrower continuously from one side toward the other side, is prepared by UV polymerization of a liquid crystal blend containing a polymerizable mesogen compound (a), a polymerizable chiral agent (b), and a photopolymn. initiator (c), has reflection wavelength band in a visible light region ≥200 nm, and contains on the long pitch-length side, continuously or uncontinuously, a layer where a helical structure or a helix of a pitch length showing reflection of IR region is substantially resolved. Preferably, the layer where the helical structure or the helix of long pitch length is substantially resolved comprises a retardation layer showing optical retardation 50-450 nm toward the incident light from the front. Preferably, the cholesteric liquid crystal film is prepared by UV polymerization of the liquid crystal blend between 2 pieces of substrates; the pitch length of the cholesteric liquid crystal film changes in such a way that the pitch length becomes narrower continuously from

the side irradiated with UV. Preferably, the liquid crystal blend does not contain UV absorbers. Preferably, the polymerizable mesogen compound (a) has molar optical absorption 50-500 dm3mol-1cm-1@365 nm and is represented by the general formula I (R1 = H, Me; n = 1-5 integer). The linearly polarizing film using the wide wavelength band cholesteric liquid crystal film has retardation of the retardation layer 100-160 nm. The circularly polarizing film using the wide wavelength band cholesteric liquid crystal film has retardation of the retardation layer 200-350 nm. The circularly polarizing film will be laminated with a λ/4 plate to give a linearly polarizing film. The liquid crystal display has a liquid crystal cell on the light-emitting side of a surface-emitting light source having the linearly or circularly polarizing film or plate on the front side.

IT **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of wide wavelength band cholesteric liquid crystal film for linearly or circularly polarizing film of LCD)

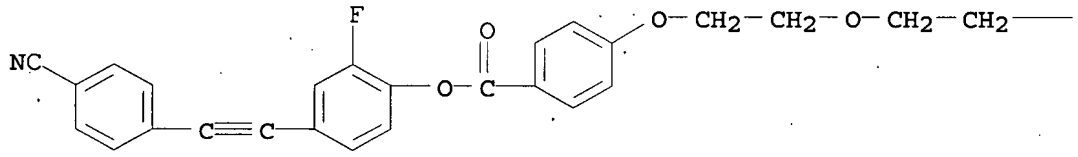
RN 727400-95-5 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



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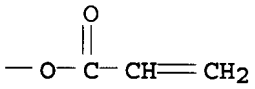


CM 2

CRN 457053-05-3
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM G02B005-30
ICS C08J005-18; G02F001-1335; G02F001-1336; C08L067-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **727400-95-5P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of wide wavelength band cholesteric liquid crystal film for linearly or circularly polarizing film of LCD)

L20 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:610213 HCAPLUS
DOCUMENT NUMBER: 141:164925
TITLE: Broad-band-cholesteric liquid-crystal film and process for producing the same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display
INVENTOR(S): Shiraogawa, Miki; Fukuoka, Takahiro; Takahashi, Naoki; Hara, Kazutaka
PATENT ASSIGNEE(S): Nitto Denko Corporation, Japan
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004063780	A1	20040729	WO 2004-JP68	200401 08
W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GH, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ				
JP 2004233987	A	20040819	JP 2004-2130	200401 07

PRIORITY APPLN. INFO.: JP 2003-4406 A 200301 10

AB A broad-band-cholesteric liquid-crystal film which is obtained by applying a liquid-crystal mixture comprising a polymerizable mesogenic compound, a polymerizable chiral reagent, and a photopolymn. initiator to an alignment substrate and polymerizing the coating with UV in an inert gas atmospheric, and which has a reflection band width of ≥200 nm. The broad-band-cholesteric liquid-crystal film has a broad reflection band and satisfactory durability.

IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(broad-band-cholesteric liquid-crystal film and process for producing the same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display)

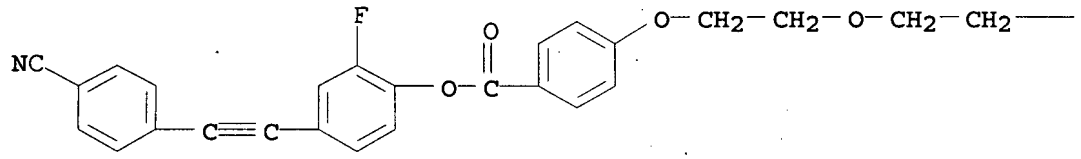
RN 727400-95-5 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



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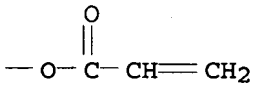


CM 2

CRN 457053-05-3
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM G02B005-30
ICS G02F001-1335
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(broad-band-cholesteric liquid-crystal film and process for producing the same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display)

L20 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:610211 HCAPLUS
DOCUMENT NUMBER: 141:148254
TITLE: Broad-band-cholesteric liquid-crystal film and process for producing the same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display
INVENTOR(S): Fukuoka, Takahiro; Takahashi, Naoki; Hara, Kazutaka
PATENT ASSIGNEE(S): Nitto Denko Corporation, Japan
SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004063778	A1	20040729	WO 2004-JP53	20040108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA				
JP 2004264322	A	20040924	JP 2003-4346	20030110
EP 1584957	A1	20051012	EP 2004-700758	20040108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1735820	A	20060215	CN 2004-80002055	20040108
US 2006119783	A1	20060608	US 2005-542065	20050711
PRIORITY APPLN. INFO.:			JP 2003-4346 A	20030110
			WO 2004-JP53 W	20040108

AB A broad-band-cholesteric liquid-crystal film which is obtained by polymerizing a liquid-crystal mixture comprising a polymerizable mesogenic compound, a polymerizable chiral reagent, and a photopolymn. initiator between 2 substrates with UV, and which has a reflection band width of ≥200 nm. The broad-band-cholesteric liquid-crystal film has a broad reflection band and satisfactory durability.

IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(broad-band-cholesteric liquid-crystal film and process for producing same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display)

RN 727400-95-5 HCAPLUS

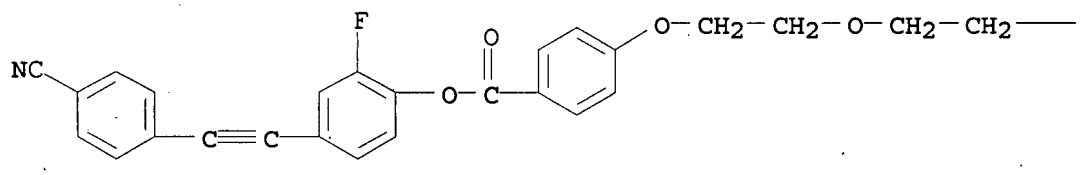
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, polymer with Paliocolor LC 756 (9CI) (CA INDEX NAME)

CM 1

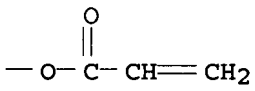
CRN 461055-10-7

CMF C29 H22 F N O6

PAGE 1-A



PAGE 1-B



CM 2

CRN 457053-05-3
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IC ICM G02B005-30
ICS G02F001-1335
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
IT **727400-95-5P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(broad-band-cholesteric liquid-crystal film and process for producing same, circularly polarizing plate, linearly polarizing element, illuminator, and liquid-crystal display)

L20 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:802412 HCAPLUS
DOCUMENT NUMBER: 137:318039
TITLE: Polymerizable nematic liquid crystal, cholesteric liquid crystal composition containing it, optical film made from the composition, and liquid crystal display using the film
INVENTOR(S): Nakano, Shusaku; Mochizuki, Makoto; Iwatani, Koji; Yamada, Shinya; Hashimoto, Tsutomu; Nakayama, Yuji; Hasegawa, Yoshiki; Suzuki, Tadashi; Kobayashi, Toru
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan; Takasago Perfumery Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002308832	A	20021023	JP 2001-113420	200104 12
CN 1380375	A	20021120	CN 2002-105981	200204 11
US 2003072893	A1	20030417	US 2002-121771	200204 11
US 6805920	B2	20041019		
PRIORITY APPLN. INFO.:			JP 2001-113420 A	200104 12

AB The composition for optical films and CD devices contains (A) a nematic liquid crystal having ≥1 polymerizable group with Δn/n ≥0.14 (n = average refractive index; Δn = ne - no; ne, no = refractive index for extraordinary light and ordinary light, resp.) to show orientation by applying on an orientation film, and optionally (B) chiral compds. and (C) polyfunctional (meth)acrylates. The optical film, preferably selective reflection film is obtained by applying the liquid crystal or composition on an orientation film, heating the film for orientation, and reaction of (meth)acryloyl groups to fix the orientation structure. The selective reflection film gives cholesteric polarizers by lamination with an optical retardation film. The liquid crystal uses the optical film. The compound and its composition show large Δn/n value and good coatability on orientation films.

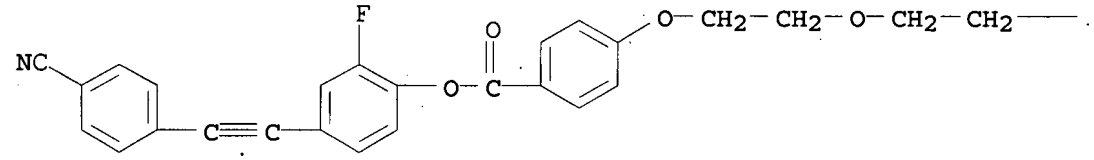
IT **461055-21-0P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal composition containing polymerizable nematic liquid crystal for orientation film used as selective reflection film in liquid crystal displays)

RN 461055-21-0 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, homopolymer (9CI) (CA INDEX NAME)

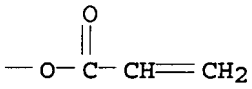
CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

PAGE 1-A



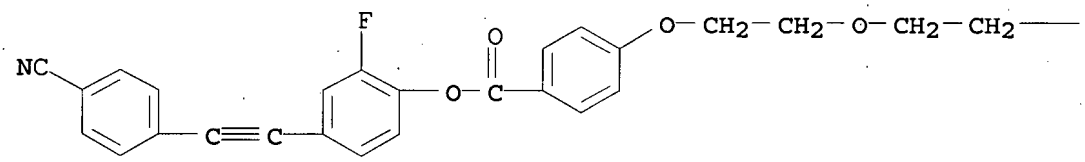
PAGE 1-B



IT **461055-10-7P 461055-27-6P 461055-36-7P 472975-33-0P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal composition containing polymerizable nematic liquid crystal for orientation film used as selective reflection film in liquid crystal displays)

RN 461055-10-7 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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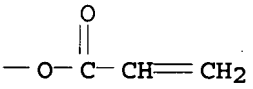
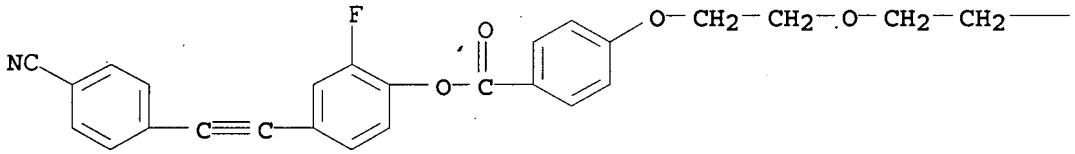


RN 461055-27-6 HCAPLUS
CN Benzoic acid, 4-[2-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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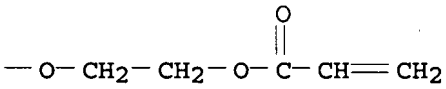
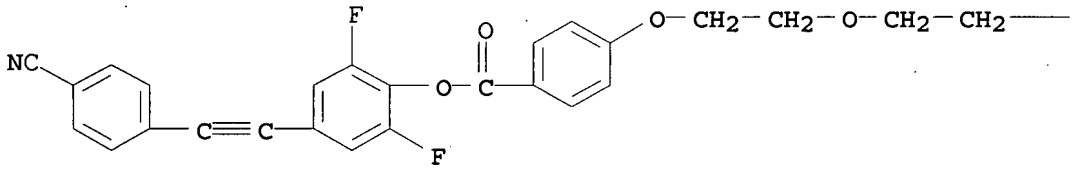


RN 461055-36-7 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2,6-difluorophenyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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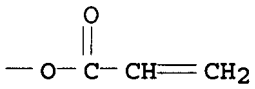
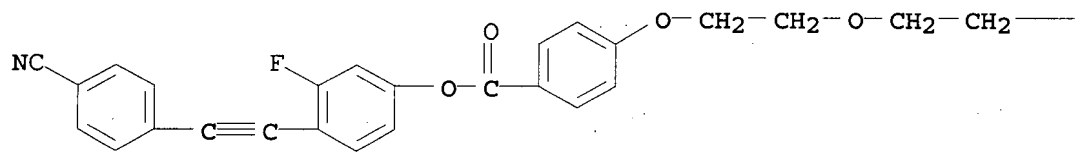
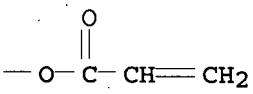


RN 472975-33-0 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-3-fluorophenyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C07C069-92
ICS C08F220-10; C08J005-18; C09K019-38; C09K019-54; G02B005-30; G02F001-1335; C07C235-46; C07M007-00; C08L033-04

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 75

IT 461055-20-9P **461055-21-0P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal composition containing polymerizable nematic liquid crystal for orientation film used as selective reflection film in liquid crystal displays)

IT **461055-10-7P** 461055-13-0P 461055-22-1P 461055-23-2P
461055-27-6P 461055-30-1P 461055-34-5P 461055-35-6P
461055-36-7P 472975-15-8P 472975-26-1P
472975-33-0P 472975-49-8P 472975-56-7P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cholesteric liquid crystal composition containing polymerizable nematic liquid crystal for orientation film used as selective reflection film in liquid crystal displays)

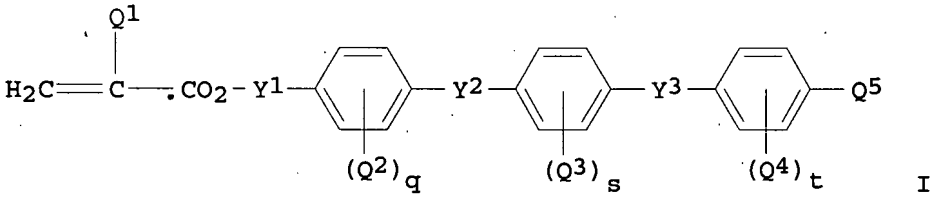
L20 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:708786 HCAPLUS
DOCUMENT NUMBER: 137:248681
TITLE: Liquid crystalline (meta)acrylic compounds and optical films therefrom
INVENTOR(S): Nakano, Shusaku; Mochizuki, Makoto; Iwatani, Koji; Yamada, Shinya; Hashimoto, Tsutomu; Nakayama, Yuji; Hasegawa, Yoshiki; Kobayashi, Toru
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan; Takasago Perfumery Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002265421	A	20020918	JP 2001-68330	200103 12

PRIORITY APPLN. INFO.: JP 2001-68330 200103 12

OTHER SOURCE(S): MARPAT 137:248681

GI



I

AB Liquid crystalline compns. comprise (meta)acrylic compds. having general formula (I). wherein Y1 = CnH2n, CnH2nO, or (CmH2mO)p where n = 2-12, m = 2-6, and p = 2-6; Y2, Y3 = CO2, OCO, C:C, or a single bond (at least one of Y2 and Y3 = C:C); Q1 = H or Me; Q2, Q3, and Q4 = F, Cl, H, Me, Et, or OMe; Q5 = CN, F, or OCvH2v+1 (v = 1-6); and q, s, and t = 1 or 2.

IT **461055-21-0P**

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(liquid crystalline (meta)acrylic compds. and optical films therefrom)

RN 461055-21-0 HCAPLUS

CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 461055-10-7
CMF C29 H22 F N O6

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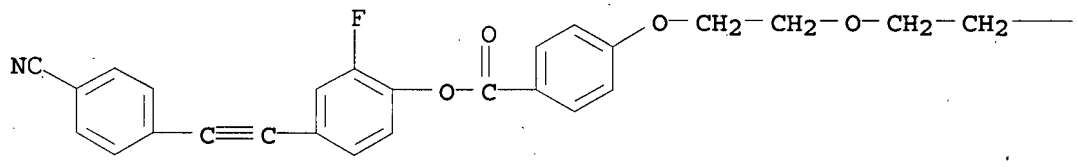

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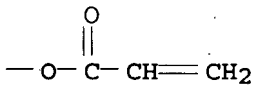

IT **461055-10-7 461055-24-3 461055-25-4**
461055-27-6 461055-36-7
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(liquid crystalline (meta)acrylic compds. and optical films therefrom)

RN 461055-10-7 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

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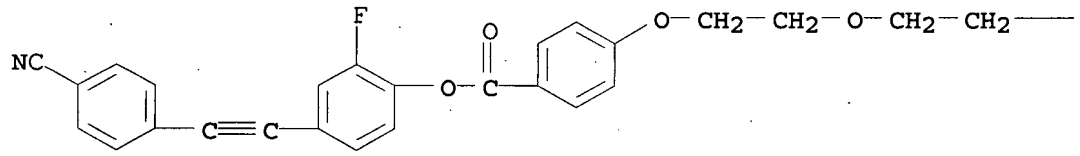

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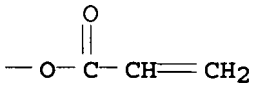
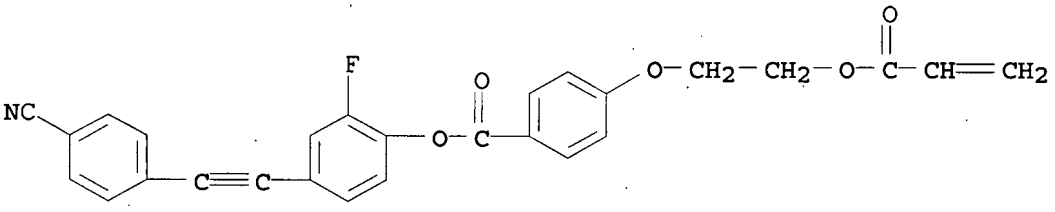


RN 461055-24-3 HCAPLUS
CN Benzoic acid, 4-[2-[(1-oxo-2-propenyl)oxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)



RN 461055-25-4 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

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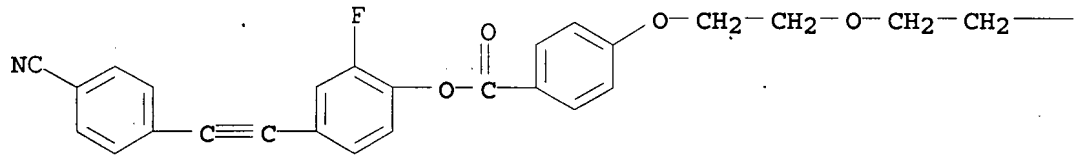

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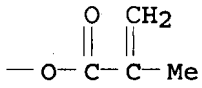

RN 461055-27-6 HCAPLUS
CN Benzoic acid, 4-[2-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2-fluorophenyl ester (9CI) (CA INDEX NAME)

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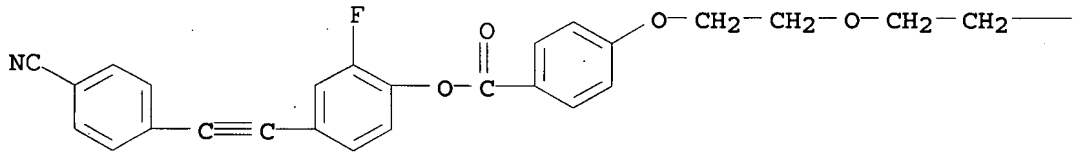

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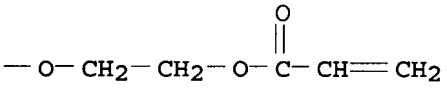

RN 461055-36-7 HCAPLUS
CN Benzoic acid, 4-[2-[2-[(1-oxo-2-propenyl)oxy]ethoxy]ethoxy]-, 4-[(4-cyanophenyl)ethynyl]-2,6-difluorophenyl ester (9CI) (CA INDEX NAME)

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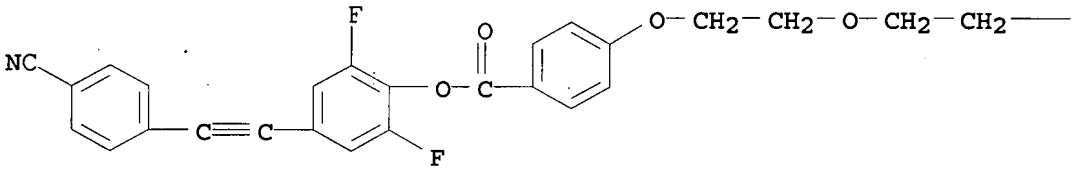

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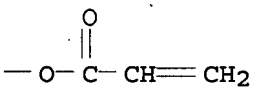

IC ICM C07C069-92
ICS C07C255-55; C08F002-00; C08F020-10; C09K019-18; C09K019-20; C09K019-38; G02B005-30; G02F001-13
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 25, 74
IT 461055-13-0P 461055-17-4P 461055-20-9P **461055-21-0P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(liquid crystalline (meta)acrylic compds. and optical films therefrom)
IT 13048-33-4, 1,6-Hexanediol diacrylate 125248-71-7 309946-85-8
461055-10-7 461055-18-5 461055-19-6 461055-22-1
461055-23-2 **461055-24-3** **461055-25-4**
461055-26-5 **461055-27-6** 461055-28-7 461055-29-8
461055-30-1 461055-31-2 461055-32-3 461055-33-4 461055-34-5
461055-35-6 **461055-36-7** 461055-37-8 461055-38-9
461055-39-0 461055-40-3
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(liquid crystalline (meta)acrylic compds. and optical films therefrom)

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